



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
OSB2000-0168-RI

August 1, 2000

Mr. Dave Reilly
Federal Highway Administration
The Equitable Center, Suite 100
530 Center Street NE
Salem, OR 97301

Re: Reinitiation of Formal Section 7 Consultation on the Charlotte Creek Quarry Rock Production Project, Douglas County, Oregon.

Dear Mr. Reilly:

Enclosed is a biological opinion prepared by the National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act (ESA) on the Charlotte Creek Quarry Rock Production Project in Douglas County, Oregon. The NMFS concludes in this biological opinion that the proposed action is not likely to jeopardize the subject species or destroy or adversely modify critical habitat. Pursuant to section 7 of the ESA, NMFS included reasonable and prudent measures with non-discretionary terms and conditions that NMFS believes are necessary and appropriate to minimize the potential for incidental take associated with this project.

Questions regarding this opinion should be directed to Nancy Munn of my staff in the Oregon State Branch Office at (503) 231-6269.

Sincerely,


for William Stelle, Jr.
Regional Administrator

cc: Rose Owens - ODOT
Bill Warncke - ODOT (Biological Opinion)
Max Mizejewski - ODOT (Biological Opinion)
Randy Reeve - ODFW (Biological Opinion)
Jeff Payne - ODOT Region 3



Endangered Species Act - Section 7
Consultation

BIOLOGICAL OPINION

Charlotte Creek Quarry Rock Production Project
Oregon Route 38
Douglas County, Oregon

Agency: Federal Highway Administration

Consultation Conducted By: National Marine Fisheries Service,
Northwest Region

Date Issued: August 1, 2000

Refer to: OSB2000-0168-RI

TABLE OF CONTENTS

I. BACKGROUND	1
II. PROPOSED ACTION	2
III. BIOLOGICAL INFORMATION AND CRITICAL HABITAT	4
IV. EVALUATING PROPOSED ACTIONS	5
A. Biological Requirements	5
B. Environmental Baseline	6
V. ANALYSIS OF EFFECTS	7
A. Effects of Proposed Action	7
B. Effects on Critical Habitat	8
C. Cumulative Effects	8
VI. CONCLUSION	8
VII. CONSERVATION RECOMMENDATIONS	9
VIII. REINITIATION OF CONSULTATION	9
IX. REFERENCES	9
X. INCIDENTAL TAKE STATEMENT	11
A. Amount or Extent of the Take	11
B. Reasonable and Prudent Measures	11
C. Terms and Conditions	12

I. BACKGROUND

On November 19, 1998 (OSB1998-0088), the National Marine Fisheries Service (NMFS) completed an Endangered Species Act (ESA) section 7 informal consultation with Oregon Department of Transportation (ODOT) for the Charlotte Creek Quarry Rock Production project. NMFS concurred that the proposed action was not likely to adversely affect Oregon Coast coho salmon (OC coho) or Umpqua cutthroat trout because no in-water work was proposed and a vegetated buffer was to remain between Charlotte Creek and the quarry operations. However, during a production blast at the quarry on February 17, 2000, a substantial amount of rock landed in the creek and covered the riparian area. Since moving the rock would cause additional adverse impacts, the project was stopped until formal consultation could be completed. On June 26, 2000, NMFS received a request for formal consultation from the Federal Highway Administration (FHWA) to address impacts during the removal of the quarry rock from the riparian area and quarry production area, and remediation of the site.

Charlotte Creek flows into the Umpqua River at Rivermile 22.5. The project is located approximately 10 miles east of Reedsport on Oregon Highway 38. FHWA/ODOT is proposing several tasks to be completed in order to stabilize the quarry. The quarry rock will be moved away from the stream and stored against the quarry face. The forest road at the base of the quarry will be cleared of rock and rebuilt. The quarry access road to the top of the quarry will be rebuilt. To remediate, the quarry access road will be stabilized, and the impacted riparian habitat will be restored. The slope damaged by the dislodged rock will be planted.

The effects determination was made using the methods described in *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996). FHWA/ODOT determined that the proposed action was likely to adversely affect the OC coho. Umpqua River cutthroat trout were part of the original consultation for this project but have subsequently been de-listed (April 26, 2000; 65 FR 24420), and are not considered here.

This biological opinion (Opinion) is based on the information presented in the biological assessment (BA) and the result of the consultation process. The consultation process has involved a site visit, and correspondence and communications to obtain additional information and clarify the BA. As appropriate, modifications to the proposal to reduce impacts to the indicated species were discussed and enacted. This has included discussions concerning appropriate site remediation activities.

The objective of this Opinion is to determine whether the action to remove the quarry rock from the Charlotte Creek Quarry Rock Production site and subsequent site remediation is likely to jeopardize the continued existence of the OC coho salmon, or destroy or adversely modify critical habitat.

II. PROPOSED ACTION

Background

The contract to re-develop the rock quarry was let by ODOT to the contractor on October 14, 1999. The contractor was to provide ODOT with 28,000 cubic meters of rock for road repair from ODOT's Charlotte Creek Quarry. Two production blasts were designed to produce the quantity and type of rock required. The contractor began constructing an access road to the top of the quarry on January 5, 2000. Overburden composed of rock and soil was dislodged from the hill slope in the process of constructing the road. This material damaged the trees and ground on the hill on the west end of the quarry. Several large boulders ended up in the creek. The contractor constructed an extension of the original berm along the creek's edge to the west presumably to prevent further damage to this section of the creek. The ODOT inspector did not notice the rock in the creek until February 17, 2000.

The first production blast occurred on Thursday, February 17, 2000. The blast thrust rock from the quarry face into the landing area below, creating a bench on the quarry face. The access road to the top of the quarry was destroyed in one area by the production blast. Some rock was propelled into the creek from the blast. The ODOT inspector on site warned the contractor to prevent any more rock from entering the creek at this point. On Friday, February 18, 2000, the contractor worked to move loose rock from the quarry bench to the landing area and more rock fell into the creek and filled the riparian area, overtopping the berm. This activity continued over the weekend. On Tuesday, February 22, 2000, ODOT visited the quarry and noticed significant amounts of rock in the creek and damage to the riparian buffer strip between the berm and the creek. Material from the quarry was still being dislodged into the creek. On Wednesday, February 23, 2000, ODOT issued a stop work order to the contractor.

Impacts of February, 2000, Activities

Oregon Department of Fish and Wildlife (ODFW) surveyed Charlotte Creek within the rockfall area on March 3, 2000. Both cutthroat trout and coho salmon were present in the project reach, including newly emerged coho and presmolts (Randy Reeve, ODFW Biologist, personal communication March 6, 2000). The presence of coho alevins confirms that spawning activity occurred within the project reach or nearby. When rock entered the creek, it had the potential to harm redds, and injure or kill juvenile coho.

The riparian damage that occurred as a result of the rockfall can be divided into two areas. The first area is between the road/landing area and the creek (on the creek side of the berm). The riparian overstory (primarily alders) has been destroyed by the rockfall and many large boulders remain in this area. The understory vegetation on the berm was also disturbed leaving areas of bare soil. This disturbed area is roughly 302 feet long (parallel to the creek) and 40 feet wide. The total disturbed area is 12,080 square feet. The contractor and ODOT staff placed straw mulch over the bare areas as temporary erosion control, and ODOT seeded the mulched areas.

The second area of riparian damage occurred on the steep slope at the west end of the quarry. This area is within the functional riparian zone of Charlotte Creek. Previous to quarry activity, this area provided some shading of the creek, organic inputs to the stream, and was a source of large woody material to the stream. These functions have been impacted by the quarry activities by the removal of many trees. Part of this area was originally designed to be the overburden storage area for the quarry and was meant to be cleared. The disturbed area is approximately 49,973 square feet. There is little vegetation remaining, and erosion was producing sediment-laden water that pooled on the forest road and overflowed into the creek. The contractor installed silt fencing on the stream side of the road.

The contractor's excavator is still on the quarry bench above the quarry floor. In order to remove his equipment, the contractor will have to rebuild the road. To do this, more rock will be dislodged from the quarry. This rock will end up in the creek unless the landing area at the base of the quarry is cleared out to provide a run-out zone for the rock to land in.

Finishing Quarry Operations and Stabilizing the Quarry

Several tasks need to be completed to stabilize the quarry site. The quarry rock will be moved away from the stream and stored against the quarry face. The forest road at the base of the quarry will be cleared. The contractor will rebuild the quarry access road and remove the excavator from the quarry bench. The quarry road will be stabilized with permanent erosion control. Finally, the contractor will restore the impacted riparian habitat between the berm and the creek, and the slope damaged by dislodged overburden at the west end of the quarry will be stabilized.

The contractor will remove the rock and overburden currently overtopping the berm. Further damage to the creek and riparian zone will be avoided. The rocks will be removed one at a time with an excavator equipped with a bucket and thumb. The excavator will clear the landing area (fall out zone) working from east to west, to minimize the potential for the excavator to dislodge rocks. The rock will be stockpiled against the quarry wall on the east end of the quarry adjacent to Highway 38. Once the rock overtopping the berm has been cleared, the berm will be reconstructed to protect the creek from dislodged rock. The berm will be at least 2 meters high, and will be adequate to contain dislodged rock from the quarry face and bench. The berm and overburden pile will be seeded and mulched to prevent erosion.

Once the landing area is completely clear of rock and overburden, the contractor will remove his excavator from the bench. The landing area will be cleared of dislodged rock before there is danger of the rock overtopping the berm again. If enough rock is building up in the landing area to potentially overtop the berm, work to remove the excavator will cease, and the landing area will be cleared of the dislodged rock.

After all activities that could potentially dislodge more rock into the riparian zone are complete, the rock on the banks of the creek will be removed individually. The excavator will not cross the berm to the creek side to remove this rock. All rocks that are in the active channel (below the 2-year flood elevation) will remain in place. The 2-year flood elevation will be marked by an ODOT biologist prior to any rock removal in this area.

All quarry rock will be stockpiled against the quarry face. The forest road will be cleared of all quarry rock and other obstructions to allow access of mobile construction equipment and vehicles past the quarry. The contractor will remove the contractor-built berm on the west end of the quarry. This berm was not part of the original quarry plans and its presence would preclude full riparian habitat recovery in this area.

Restoration

The disturbed riparian zone between the berm and creek has been stabilized with straw mulch and temporary seeding. In October 2000, one-gallon container stock or larger will be planted in this area. The area impacted by the majority of the rockfall will be planted with container stock at a density of 50 plants per 1,000 square feet. Approximately 226 plants will be used in this area. The plants will be randomly placed, and spaced between 1 and 2 meters on center.

The other impacted riparian area will be planted with container stock at 25 plants per 1,000 square feet. Approximately 189 plants will be used in this area because some live plants remain.

The disturbed slope will be stabilized with permanent erosion control seeding between August 1 to September 15, 2000 after all activities that could dislodge rock from the quarry bench have ceased. The slope will be hydroseeded with a permanent seed mix of native grasses, tree, and shrub species and a bonded fiber matrix mat system (Soil Guard). The hydroseeding machine will have a portable hose and enough power to be capable of reaching the top of the slope with the seed and Soil Guard. Another option to achieve full coverage would be to use a hydroseeding machine that could be transported to the top of the slope on the quarry access road.

All work with the potential to dislodge more rock into Charlotte Creek will be accomplished within the ODFW in-water work window of July 1 to September 15.

III. BIOLOGICAL INFORMATION AND CRITICAL HABITAT

The OC coho salmon Evolutionarily Significant Unit (ESU) was listed as threatened under the ESA by the NMFS on August 10, 1998 (63 FR 42587). Biological information on OC coho salmon may be found in Weitkamp et al. (1995). Critical habitat was designated for the OC coho salmon on February 16, 2000 (65 FR 7764). Critical habitat for OC coho salmon consists of all waterways below naturally

impassable barriers including the project area. The adjacent riparian zone is also included in the designation. This zone is defined as the area that provides the following functions: Shade, sediment, nutrient or chemical regulation, streambank stability, and input of large woody debris or organic matter. Protective regulations for OC coho were issued under section 4(d) of the ESA on July 10, 2000 (65 FR 42423

IV. EVALUATING PROPOSED ACTIONS

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). NMFS must determine whether the action is likely to jeopardize the listed species and/or whether the action is likely to destroy or adversely modify critical habitat. This analysis involves the initial steps of defining the biological requirements and current status of the listed species and evaluating the relevance of the environmental baseline to the species' current status.

Subsequently, NMFS evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NMFS must consider the estimated level of mortality attributable to: (1) Collective effects of the proposed or continuing action, (2) the environmental baseline, and (3) any cumulative effects. This evaluation must take into account measures for survival and recovery specific to the listed salmon's life stages that occur beyond the action area. If NMFS finds that the action is likely to jeopardize the listed or proposed species, NMFS must identify reasonable and prudent alternatives for the action.

Furthermore, NMFS evaluates whether the action, directly or indirectly, is likely to destroy or adversely modify the listed species' proposed or designated critical habitat. The NMFS must determine whether habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. The NMFS identifies those effects of the action that impair the function of any essential element of critical habitat. The NMFS then considers whether such impairment appreciably diminishes the habitat's value for the species' survival and recovery. If NMFS concludes that the action will destroy or adversely modify critical habitat it must identify any reasonable and prudent measures available.

For the proposed action, NMFS' jeopardy analysis considers direct or indirect mortality of fish attributable to the action. NMFS' critical habitat analysis considers the extent to which the proposed action impairs the function of essential elements necessary for migration, spawning, and rearing of the OC coho salmon under the existing environmental baseline.

A. Biological Requirements

The first step in the methods NMFS uses for applying the ESA section 7(a)(2) to listed salmon is to define the species' biological requirements that are most relevant to each consultation. NMFS also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess the current status of the listed species, NMFS starts with the determinations made in its decision to list OC coho for ESA protection and also considers new data available that is relevant to the determination (Weitkamp 1995).

The relevant biological requirements are those necessary for OC coho salmon to survive and recover to naturally reproducing population levels at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environment.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful migration, spawning, holding, and rearing. The current status of the OC coho salmon, based upon their risk of extinction, has not significantly improved since the species was listed and, in some cases, their status may have worsened.

B. Environmental Baseline

The current range-wide status of the identified ESU may be found in Weitkamp et al. (1995). The identified action will occur within the range of OC coho salmon. The defined action area is the area that is directly and indirectly affected by the action. The direct effects occur at the project site and may extend upstream or downstream based on the potential for impairing fish passage, hydraulics, sediment and pollutant discharge, and the extent of riparian habitat modifications. Indirect effects may occur throughout the watershed where actions described in this Opinion lead to additional activities or affect ecological functions contributing to stream degradation. As such, the action area for the proposed activities include the immediate watershed containing the quarry site and those areas upstream and downstream that may reasonably be affected, temporarily or in the long term. For the purposes of this Opinion, the action area is defined as the streambed and streambank of Charlotte Creek extending upstream to the edge of disturbance, and extending downstream to the Umpqua River. Other areas of the Umpqua River watershed are not expected to be directly or indirectly impacted.

Resident cutthroat trout, coho salmon, and winter steelhead reside in Charlotte Creek. Coho salmon spawn in Charlotte Creek directly below the quarry site. Surrounding land uses are forestry, including lands within the Elliot State Forest, Siuslaw National Forest, and Bureau of Land Management, Coos Bay District. Approximately half the nearby timber stands have been clearcut harvested in the last 20 years. Fish habitat in Charlotte Creek is not properly functioning because of the forestry operations, with problems such as a lack of large woody material and habitat complexity, and an accumulation of fine sediments in the gravels.

Based on the best available information on the current status of OC coho salmon range-wide; the population status, trends, and genetics; and the poor environmental baseline conditions within the action area, NMFS concludes that the biological requirements of the identified ESU within the action area are not currently being met. River basins have degraded habitat resulting from agricultural and forestry practices, water diversions, urbanization, mining, and severe recent flooding. The following habitat indicators are either at risk or not properly functioning within the action area: turbidity/sediment, large woody debris, pool frequency and quality, and off-channel habitat. Actions that do not maintain or restore properly functioning aquatic habitat conditions would be likely to jeopardize the continued existence of OC coho salmon.

V. ANALYSIS OF EFFECTS

A. Effects of Proposed Action

The effects determination in this Opinion was made using a method for evaluating current aquatic conditions, the environmental baseline, and predicting effects of actions on them. This process is described in the document *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996). The effects of actions are expressed in terms of the expected effect - restore, maintain, or degrade - on aquatic habitat factors in the project area.

The current status of the site is highly degraded because of the rocks and sediment (overburden) in the riparian area as a result of the production blast and subsequent earth-moving activity. It is likely that newly emerging and juvenile coho salmon were killed and injured during this activity. The proposed future actions are designed to minimize further injury and death by avoiding direct in-water actions. Therefore, the rocks that fell in the creek during quarry operations in February will remain there. The creek is naturally rocky, so the additional rocks will contribute to the complexity of the reach by creating pool habitat and variable flow areas.

Rock and sediment removal in the adjacent riparian area has the potential for further direct impacts. The terms and conditions in this Opinion are intended to minimize the potential of both direct and indirect take. The terms and conditions limit the contractor's choice in equipment and timing, and restrict the methods that can be used to remove the material. There is still a relatively high likelihood that sediment will end up in the creek, which will negatively impact spawning beds in the reach and could temporarily displace fish from the action area.

The soil stabilization and planting activities will increase the likelihood of a return to riparian function at the site. The disturbed riparian area is all within the critical habitat for OC coho salmon. It will take at least five years of re-growth before function begins to return, and substantially more time before full riparian function returns. During the recovery period, increased sediment, water temperatures, and

runoff are likely at a reach level. At a sub-basin level (Charlotte Creek), these impacts are probably not quantifiable.

For the proposed action, the NMFS expects that the effects will tend to maintain or restore each of the habitat elements over the longterm, greater than one year, based on the current condition of the site. Compared to site conditions prior to the production blast, the NMFS expects that habitat elements will be maintained or restored over a period of time greater than 10 years. In the shortterm, a temporary increase in sediment entrainment and turbidity, and disturbance of riparian habitat is expected. Fish may be killed, or more likely, temporarily displaced if any more rocks or overburden end up in Charlotte Creek. The potential effects from the sum total of proposed actions including habitat enhancement activities are expected to restore or maintain the function of coho salmon habitat condition.

B. Effects on Critical Habitat

NMFS designates critical habitat based on physical and biological features that are essential to the listed species. Essential features for designated critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. Critical habitat for OC coho salmon consists of all waterways below naturally impassable barriers including the project area. The adjacent riparian zone is also included in the designation. This zone is defined as the area that provides the following functions: Shade, sediment, nutrient or chemical regulation, streambank stability, and input of large woody debris or organic matter.

The proposed actions will affect critical habitat. In the shortterm, temporary increase of sediments and turbidity and disturbance of riparian habitat is expected. In the longterm, a slow recovery process will occur as the plants mature. Also, habitat complexity will be increased at the site by the addition of the large rocks. The NMFS does not expect that these actions will diminish the value of the habitat for survival of OC coho salmon.

C. Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." The action area has been defined as upstream to the edge of disturbance extending downstream to the Umpqua River. A wide variety of actions occur within the Umpqua River basin, within which the action area is located. NMFS is not aware of any significant change in such non-Federal activities that are reasonably certain to occur. NMFS assumes that future private and State actions will continue at similar intensities as in recent years. Future FHWA/ODOT transportation projects are planned in the Umpqua River watershed. Each of these projects will be reviewed through separate section 7 consultation processes and therefore are not considered cumulative effects.

VI. CONCLUSION

After reviewing the current status of Oregon Coast coho salmon, the environmental baseline for the action area, the effects of the proposed Charlotte Creek Quarry Rock Production Project and the cumulative effects, it is the NMFS biological opinion that this project, as proposed, is not likely to jeopardize the continued existence of the Oregon Coast coho salmon, and is not likely to destroy or adversely modify designated critical habitat. This conclusion is based on findings that the proposed action will minimize further death or injury to newly emerging and juvenile OC coho by avoiding further in-water work, removing rock and sediment from the riparian area that was deposited by the blast to prevent it from entering the water, and use of soil stabilization and revegetation techniques to restore the adjacent slope.

VII. CONSERVATION RECOMMENDATIONS

Section 7 (a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species, to minimize or avoid adverse modification of critical habitat, or to develop additional information. The NMFS does not request any conservation recommendations for this action.

VIII. REINITIATION OF CONSULTATION

This concludes formal consultation on the Charlotte Creek Quarry Rock Production Project. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained or is authorized by law and if: 1) The amount or extent of incidental take is exceeded; 2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this Opinion; 3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this Opinion; or 4) a new species is listed or critical habitat is designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

IX. REFERENCES

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this Opinion.

DEQ 1996. 303d List of Water Quality Limited Streams, as Required Under the Clean Water Act. Oregon Department of Environmental Quality (DEQ), Portland, Or. 1996. (www.deq.state.or.us/wq/303dlist/303dpage.htm).

DEQ 1998. Draft 303d List of Water Quality Limited Streams, as Required Under the Clean Water Act. Oregon Department of Environmental Quality (DEQ), Portland, Or. 1998. (www.deq.state.or.us/wq/303dlist/303dpage.htm).

DSL 1996. Essential Indigenous Salmonid Habitat, Designated Areas, (OAR 141-102-030). Oregon Division of State Lands. Portland, Or. 1996.

NMFS (National Marine Fisheries Service) 1996. Making Endangered Species Act determinations of effect for individual and grouped actions at the watershed scale. Habitat Conservation Program, Portland, Oregon.

ODFW 1996. Database -- Salmonid Distribution and Habitat Utilization, Arc/Info GIS coverages. Portland, Or. 1996. (rainbow.dfw.state.or.us/ftp/).

Weitkamp, L.A., T.C. Wainwright, G.J. Brant, G.B. Miller, D.J. Teel, R.G. Kope, and R.S. Waples. 1995. Status Review of Coho Salmon from Washington, Oregon, and California. U.S. Department of Commerce, NOAA Technical Memo. NMFS-NWFWC-24, 258 p.

X. INCIDENTAL TAKE STATEMENT

Sections 4 (d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

A. Amount or Extent of the Take

The NMFS anticipates that the action covered by this Opinion has more than a negligible likelihood of resulting in incidental take of OC coho salmon because of detrimental effects from increased sediment levels (non-lethal) and the potential for direct incidental take during the removal of rock and overburden from the riparian area (lethal and non-lethal). Effects of actions such as these are largely unquantifiable in the short-term, and are not expected to be measurable as long-term effects on coho habitat or population levels. Therefore, even though NMFS expects some low level incidental take to occur due to the actions covered by this Opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species itself. In instances such as these, the NMFS designates the expected level of take as "unquantifiable." Based on the information in the biological report, NMFS anticipates that an unquantifiable amount of incidental take could occur as a result of the actions covered by this Opinion. The extent of the take is limited to the reach of Charlotte immediately adjacent to the quarry.

B. Reasonable and Prudent Measures

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to minimizing take of the above species. Minimizing the amount and extent of take is essential to avoid jeopardy to the listed species.

1. To minimize the amount and extent of incidental take from quarry activities adjacent to Charlotte Creek, measures shall be taken to limit the duration and extent of rock and overburden removal in the riparian area, and to schedule such work when the fewest number of fish are expected to be present.
2. To minimize the amount and extent of incidental take from construction activities near the creek, effective erosion and pollution control measures shall be developed and implemented to minimize the movement of soils and sediment both into and within the river, and to stabilize bare soil over both the short-term and long-term.
3. To minimize the amount and extent of take from loss of instream habitat and to minimize impacts to critical habitat, measures shall be taken to avoid impacts to riparian and instream habitat, or where impacts are unavoidable, to replace lost riparian and instream function.
4. To ensure effectiveness of implementation of the reasonable and prudent measures, all erosion control measures and plantings for site restoration shall be monitored and evaluated both during and following construction.

C. Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, ODOT must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. To Implement Reasonable and Prudent Measure #1, above, the FHWA/ODOT shall require to complete the following:
 - a. All work with the potential to dislodge more rock into Charlotte Creek will be done during the ODFW in-water work window of July 1st to September 15th. This includes work to stabilize the quarry including removing rock and overburden from the berm and rebuilding the berm, rebuilding the quarry bench access road, removing the excavator from the quarry bench, and stockpiling the quarry rock against the quarry face.
 - b. The excavator will not cross the berm to remove rock. All rocks that are in the active channel (below the 2-year flood elevation) will remain in place. The 2-year flood elevation will be marked by an ODOT biologist prior to any new activity at the site. No equipment entry into the 2-year floodplain will occur.
 - c. Containment measures adequate to prevent quarry rock and construction materials from entering any waterway shall be implemented. Measures shall be reviewed and monitored by the Engineer.

- d. The new berm added at the west end of the quarry will be removed.
2. To Implement Reasonable and Prudent Measure #2, above, the FHWA/ODOT shall require to complete the following:

All erosion control and pollution control measures included in the previous consultation and in the June, 2000, BA are included as terms and conditions of this consultation. Based on experiences this year, the NMFS requires ODOT to give particular attention to the following measures:

- a. Vehicle maintenance, re-fueling of vehicles and storage of fuel shall be done at least 150 feet from the 2-year flood elevation or in an adequate fueling containment area. To be considered adequate, the fueling containment area must be a bermed area that is constructed before any refueling occurs. The bermed area will be used for refueling of all heavy equipment. This area will be lined with non-permeable material to catch any spilled material and have a berm large enough to contain 100% of the material. Before laying down the non-permeable material, all sharp rock will be removed from the area, and 2 to 4 inches of soil will be laid as a base to insure the non-permeable material is not punctured. The non-permeable material will then be laid down, and covered with a 4-inch layer of sand/soil to prevent damage to the non-permeable material from the equipment. If any spills should occur, they will be cleaned up immediately. There will be a minimum 2% grade toward the back of the containment area so that any spilled material will flow to the back of the spill containment area.
- b. At the end of each work shift, vehicles shall be stored greater than 150 feet (horizontal distance) from the 2-year flood elevation, or in an area approved by the Engineer.
- c. The contractor shall develop an erosion and sediment control plan for this project. The plan may be developed and submitted in stages for each type of work required. Each type of work will not begin until the Engineer approves the erosion and sediment control plan. The minimum anticipated erosion and sediment control measures for the construction work shown on the plans include: seeding of disturbed slopes with the permanent seed mix, install straw wattles on disturbed slopes, construct check dams on the quarry bench access road, and maintain existing sediment detention ponds.
- d. All erosion control devices will be inspected daily during project activities to ensure that they are working adequately. Work crews will be mobilized to make immediate repairs to the erosion controls, or to install erosion controls during working and off-hours. Should a control measure not function effectively, the control measure will be immediately repaired or replaced. Additional controls will be installed as necessary.

- e. If soil erosion and sediment resulting from construction activities is not effectively controlled, the Engineer will limit the amount of disturbed area to that which can be adequately controlled.
3. To Implement Reasonable and Prudent Measure #3, above, the FHA/ODOT shall require to complete the following:
- a. Boundaries of the clearing limits will be flagged by the Project Inspector. Ground will not be disturbed beyond the flagged boundary.
 - b. The temporary seed mix will be sterile wheatgrass hybrid (ReGreen).
 - c. The application and seed mix for the permanent seeding shall be conducted as described in the BA (pages 8 and 9). Erosion control matting shall be a bonded fiber matrix hydraulically applied mat. It shall meet performance criteria for Type D slope protection for slopes steeper than 1:3 and for sandy soils. The hydraulic application shall include seed and fertilizer.
 - d. A planting plan will be submitted at least two weeks prior to planting for approval by the ODOT biologist or botanist. The plants supplied will be 1 gallon container stock or seedling trees of the following ratio:

1.	Red alder	10%
2.	Bigleaf maple	20%
3.	Douglas fir	25%
4.	Western red cedar	25%
5.	Pacific ninebark	10%
6.	Blue elderberry	10%
 - e. The plantings will be conducted as described on page 11 of the BA.
4. To Implement Reasonable and Prudent Measure #4, above, the FHWA/ODOT shall require to complete the following:
- a. All significant riparian replant areas will be monitored for a minimum 5-year period to insure the following:
 - i. Finished grade slopes and elevations will perform the appropriate role for which they were designed.
 - ii. Plantings are performing correctly and have an adequate success rate. An adequate success rate is 90%.

- b. Failed plantings and structures will be replaced, if replacement would potentially succeed. If not, plantings at another appropriate locations will be done.
- c. By December 31 of each year, ODOT shall submit to NMFS (Oregon Branch) a monitoring report that addresses the success of erosion control measures and of the plantings. At a minimum, the monitoring report must include photographs of the erosion control measures and plantings, with a short narrative that addresses riparian function. Monitoring reports will be submitted to:

Oregon Branch Chief
National Marine Fisheries Service
525 NE Oregon Street, #500
Portland, Oregon 97232-2737

- d. If a dead, sick or injured OC coho salmon is located, initial notification must be made to Nancy Munn, NMFS, telephone: (503) 230-6269. Care will be taken in handling sick or injured specimens to ensure effective treatment and care or the handling of dead specimens to preserve biological material in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured species or preservation of biological material from a dead animal, the finder has the responsibility to carry out instruction provided by Ms. Munn to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.